

### **REMARKS**

Applicants respectfully request reconsideration and allowance of the present application in view of the following remarks. Claims 33, 37-40, and 42-53 are pending in the application. Independent claim 33, for instance, is directed to a nonwoven composite material comprising a nonwoven material and an extruded film layer adhered to the nonwoven material. The extruded film layer is prepared from a blended composition that includes an unsaturated styrene-isoprene-styrene block copolymer having a melt flow rate that is less than 20 g/10 min., and a compatibilizer that includes a styrene-butadiene-styrene block copolymer having a melt flow rate of about 20 g/10 min. or more. The styrene-isoprene-styrene and styrene-butadiene-styrene block copolymers are present in the blended composition in a ratio from about 1.5:1 to about 2.5:1.

As a preliminary matter, Applicants have amended claim 42 to include the limitation of a ratio from 1.5:1 to 2.5:1. Applicants submit this amendment contains no new matter as the range about 1.5:1 to about 2.5:1 has been previously examined multiple times.

In the Office Action, all claims were rejected under 35 U.S.C. § 112, first paragraph for failing to comply with the written description requirement. Specifically, the Office Action states that the specification does not disclose the end point of "about" 2.5:1. Applicants respectfully disagree for the reasons noted previously. In response to Applicants' prior arguments, the Examiner states that the 112 issue is "new matter" rather than "clarity." Applicants submit that the specification clearly indicates that the inventors were in possession of "about 2.5:1" at the time of filing. For instance, the

Examples teach testing on polymer blends in 1:1, 2:1, 3:1, and 4:1 ratios (See also Fig. 3 illustrating the viscosity slope for blends of 1:1, 2:1, and 3:1 ratios). Pg. 25, lines 6+. Furthermore, the specification discloses ratios between about 1.8:1 and 2.3:1 and about 2:1. Pg. 19, lines 16-17. Thus, clearly Applicants were in possession of ratios other than exactly 2.5:1. Since the Examiner has indicated that it is not a "clarity" issue and Applicants have clearly rebutted the "new matter" claims, Applicants respectfully request withdrawal of this rejection.

Independent claim 33 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Vaughan et al. (U.S. Patent No. 6,531,544).<sup>1</sup> Vaughan et al. is directed to a hot melt adhesive for bonding lotion coated substrates. Vaughan et al. discloses that SIS and SBS block copolymers may be utilized in the adhesive. The Office Action asserts that Vaughan et al. discloses a first block copolymer with an MFR of less than 20 g/10 min. and a second one greater than 30 g/10 min. Applicants respectfully disagree. Vaughan et al. does **not** disclose the use of a second block copolymer having an MFR of greater than 20 g/10 min. as required by independent claim 33. The Office Action points to the following excerpt of Vaughan et al.:

In the case of block copolymer having a styrene content of greater than 40 wt-% the melt flow rate is typically relatively high, about 30 MFR or greater. **Preferably, the second block copolymer has a styrene content of about 30 wt-% or lower and a melt flow rate of less than 10 g/10 min. More preferably the second block copolymer is sufficiently high in molecular weight such that the solution viscosity, rather than the melt flow rate is reported.** In a preferred embodiment the solution viscosity of the second block copolymer is greater than 5,000 cps for a 25 wt-% solution of polymer and toluene at 20.degree. C., preferably greater

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<sup>1</sup> U.S. Patent No. 4,965,122 to Mormon, U.S. Patent No. 6,648,869 to Gillies, U.S. Patent No. 5,665,186 to Datta and U.S. Patent No. 4,965,122 were relied upon for the rejection of dependent claims 47-49. None of the references cure the deficiencies of Vaughan et al. as noted.

than about 10,000 cps, more preferably greater than about 15,000, and most preferably about 20,000 cps or greater. Col. 4, lines 22-35 (emphasis added).

Applicants respectfully submit that Vaughan et al. has not disclosed the use of a block copolymer having a melt flow rate of greater than 20 g/10 min. Vaughan et al. has simply disclosed that when the styrene content is greater than 40 wt-%, the melt flow rate is about 30 g/10 min. or greater. This property is **not** desirable for the second block copolymer of Vaughan et al. As such, Vaughan et al. discloses that the second block copolymer has a styrene content of 30 wt-% or less and an MFR of less than 10 g/10 min. Furthermore, even more preferably, the block copolymer has such a low MFR that the solution viscosity is reported rather than the MFR. Thus, Vaughan et al. **teaches away** from a copolymer having a melt flow rate of greater than 20 g/10 min. as required by independent claim 33. Applicants respectfully note that a prima facie case of obviousness is rebutted if the applicant can show that the art in any material respect taught away from the claimed invention.

The Office Action responds to this argument stating:

it is not clear why Vaughn would teach the use of MFR greater than 30 for the second copolymer for styrenic contents higher than 40% if Vaughan meant that styrenic copolymers with more than 40% styrene should not be used at all. Even for the sake of argument that Vaughan is disclosing a less preferred embodiment for use of block copolymers with MFR's greater than 20 . . .

Applicants submit that the use of copolymers with more than 40% styrene is **not** a lesser preferred embodiment, but it is expressly **taught against**. The excerpt in question is quoted above. One skilled in the art would understand that Vaughan et al. simply discloses that above 40% styrene content, (undesirable) MFR's of 30 or more

are obtained. Thus, Vaughan et al. utilizes block copolymers with a styrene content of **less than** 30 wt.% in order to achieve an MFR of less than 10 g/10 min. Furthermore, Vaughan et al. reinforces this notion of expressly using copolymers containing 30 wt.% or less styrene by indicating that it is most preferred that the MFR be so low that it is reported a viscosity rather than MFR. Col. 4, lines 27-35.

Furthermore, independent claim 33 also contains the limitation that copolymers are present is the blended composition in a ratio of from about 1.5:1 to about 2.5:1. In obviating this limitation, the Office Action points to Example 2 and states that Example 2 discloses "high MFR block copolymer to low MFR block copolymer of 1:1.5." Applicants note that claim 33 requires **SIS and SBS block copolymers are present is the blended composition from about 1.5:1 to about 2.5:1**. Example 2 fails to disclose the use of any SBS. Indeed, the only Example that discloses SBS is Example 1 in which the MFR of SBS is so low that the viscosity is reported rather than the MFR (i.e., MFR is less than 0.5 g/10 min.).

Applicants urge that the claimed ratio of from about 1.5:1 to about 2.5:1 of SIS and SBS block copolymers in the blended composition is not merely an obvious design choice. As noted throughout the specification, while unsaturated block polymers have been frequently used in adhesive-type applications, the use of such polymers has presented significant manufacturing challenges in extrusion of film and filaments. The stability of the unsaturated block copolymers over the extended period of time required to extrude film and filaments is not predictable and often results in severe manufacturing

disturbances. In Applicants' claimed ratios of SIS to SBS, a relatively flat viscosity line<sup>2</sup> was discovered, which is indicative of thermal stability in the extrusion process. The inventors discovered that the blended SIS and SBS polymer resins demonstrated a relatively constant viscosity, and exhibited an increased ability to withstand degradation in the extrusion process as the ratio of blended styrenic isoprene to styrenic butadiene approached the claimed ratio. Additionally, Applicants respectfully note that the Examiner agreed with Applicants' assertion in the Advisory Action mailed March 13, 2008 stating that "the claims of record do not recite any particular ratio of 'a' to 'b' with the exception of claim 42 which is now allowable over Vaughan." As such, for at least the reasons indicated, Applicants respectfully request withdrawal of this rejection.

Additionally, independent claim 33 was rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent Application No. 2003/0125442 to Maris, et al. optionally in view of U.S. Patent No. 5,681,894 to Williams et al. The Office Action indicates that Maris et al. discloses a block copolymer "a1" having a MFR of less than 20. The Office Action also indicates that Maris et al. discloses a second styrenic block copolymer "a2." Regarding "a2", the Office Action states:

Note paragraph 23 (of Maris,et al.) where it is disclosed that the "a" block copolymers may have a molecular weight as low as 25,000 and since melt flow rate varies inversely with molecular weigh and since 25,000 is a fairly low molecular weight applicants MFR of greater than about 20 would reasonably appear to be inherent.

Furthermore, the Office Action points to Williams et al. for evidence that an SBS copolymer with a molecular weight of 58,000 has a melt flow rate of 23 g/10 min.

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<sup>2</sup> See, for example, Fig. 3.

As Applicants pointed out previously, and the present Office Action concedes, the molecular weight disclosure of Maris, et al. is for the mixture of both a1 and a2 components. First, as paragraph 0019 of Maris, et al. discloses, the ratio of a1 to a2 may be 5:95 to 95:5. Thus, with such a broad range of the mixture and the extended range of the MW (i.e., 25,000 to exceeding 1,000,000), clearly, there can be no appropriate correlation to be drawn in order to satisfy “inherency” under the United States Patent Laws.

Second, Applicants previously argued that there can certainly be no direct correlation between molecular weight and MFR as various other properties such as, for instance, whether the copolymer is linear, radial, star-shaped, etc., the respective amounts of each block in the tri-block copolymer, the degree of crosslinking present, etc. affect the “correlation.” In response, the Office Action agrees, but indicates:

the issue with regard to obviousness relying on Maris alone is whether a SBS or SIS block copolymer as disclosed by Maris with a molecular weight of 25,000 could possibly have a MFR of 20 or less seems unlikely based on MFR and molecular weight data reported by the prior art.

The molecular weight data “reported by the prior art” referenced appears to be the lone portion of Williams et al. that discloses an SBS copolymer with a MW of 58,000 and an MFR of 23 g/10 min. Such a disclosure by Williams et al. is clearly not dispositive and evidence to sustain a 103 rejection based on inherency. Furthermore, Applicants again note that the 25,000 molecular weight reported by Maris, et al. is of a mixture of a1 and a2. As disclosed in paragraph 19, a1 may be present in an amount of 95%. Thus, hypothetically, a1 could be a copolymer with an MFR of 19<sup>3</sup>, a MW of 25,000, and be

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<sup>3</sup> Applicants note that the Examiner has equated “a1” with Applicants’ claimed SIS (**not** SBS).

present in an amount of 95% and a2 could be one of the disclosed SBS copolymers for a2 such as Kraton D-1101, Kraton D-1102, or Kraton D-4271 (all of which Applicants have previously submitted evidence that the MFR is **less than 20**) and still meet the molecular weight minimum.

Furthermore, the 25,000 MW minimum of Maris et al. could simply be met utilizing a polymer that is **not** SBS (as required by Applicants). Maris et al. discloses any number of polymers may be utilized as a2: "the further block copolymer (a2) may in principle be any block copolymer comprising at least one poly(vinylaromatic monomer) block and at least one hydrogenated or unhydrogenated poly(conjugated diene) block." ¶ [0020]. Thus, the disclosure of Maris et al. of an (a) mixture having a molecular weight as low as 25,000 could encompass any (a2) copolymers, not just the SBS copolymers required by Applicants independent claim 33. Furthermore, Applicants have provided evidence that the SBS copolymer disclosed as suitable in Maris et al. comprise melt flow rates no where near Applicants' claimed minimum of 20 g/10 min.

Thus, Applicants assert the above possibilities merely to point out that Maris, et al. does not **necessarily** disclose the use of an SBS having an MFR greater than 20. That, combined with the evidence Applicants have previously submitted illustrating that every "suitable" SBS disclosed by Maris et al. for use as component a2 has an MFR of **less than 20**, clearly illustrates that the Examiner's inherency arguments are based on mere **possibilities**. Applicants note that the Examiner's assertions fail to meet the § 103 requirements for inherency. "To establish inherency, the evidence must make clear that the missing descriptive matter is *necessarily present* in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. The mere

fact that a certain thing *may* occur or be present in the reference is not sufficient." *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (citations omitted); See also, MPEP § 2163.07(a). Thus, Applicants respectfully request withdrawal of this rejection.


As such, independent claim 33 patentably defines over the references. Furthermore, Applicants respectfully submit that, at least for the reasons indicated above, the dependent claims 37-40 and 42-53 also patentably define over the reference(s) cited. The patentability of the dependent claims, however, certainly does not hinge on the patentability of the independent claims.

In summary, Applicants respectfully submit that the present application is in complete condition for allowance and favorable action, therefore, is respectfully requested. Examiner Mullis is invited and encouraged to telephone the undersigned, however, should any issues remain after consideration of this Amendment.

Please charge any additional fees required by this Amendment to Deposit Account No. 04-1403.

Respectfully requested,

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